From Adversity to Resilience in the Early Childhood Sector



Findings from Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health

How Adversity Can Impact Early Childhood Outcomes

Recent estimates suggest that **62%** of California adults have experienced at least one **Adverse Childhood Experience (ACE)**, and **16%** have experienced four or more (2011-2017 data).¹ In a dose-response fashion, ACEs can lead to serious health risks, such as heart disease, stroke, cancer, dementia, mental health and substance use disorders, and premature mortality, including by suicide.²-¹² ACEs and other adversities experienced early in life without adequate buffering protections of safe, stable, and nurturing relationships and environments can lead to activation of the **toxic stress response**,¹³-¹9 defined as "prolonged activation of the stress response systems that can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years... For children, the result is the disruption of the development of brain architecture and other organ systems and an increase in lifelong risk for physical and mental disorders."²⁰

The toxic stress response can impair regions of the brain responsible for learning, memory, impulse control, attention, attachment, and emotional regulation, making learning and forming healthy relationships more difficult.²¹⁻²³ Further, the immune, metabolic, and inflammatory changes that result from toxic stress may increase the risk of infections, asthma and other atopic conditions, poor dental health, and somatic complaints, such as headache and abdominal pain.²⁴⁻²⁸ Early childhood is a time of heightened biological plasticity,²⁹ when interventions are likely to be more effective and economical. Thus, the early childhood sector plays a critical role in the primary, secondary, and tertiary prevention of toxic stress.

The Role of the Early Childhood Sector in Preventing and Mitigating Toxic Stress

In the early childhood sector, many programs provide services that braid primary, secondary, and tertiary prevention. **Primary prevention** of ACEs and toxic stress in the early childhood sector centers on preventing adverse experiences and strengthening buffering influences, typically by creating policies and programs that promote safe, stable, nurturing early relationships and environments.^{20,30,31} Universal programs may encourage positive parenting, amplify access to high-quality support services, and provide parent education and supports for healthy child development and relationships.

Secondary prevention in the early childhood sector for at-risk populations includes home visitation programs, connection to economic and other parenting supports, and educational opportunities for parents and early childhood professionals about ACEs and toxic stress, long-term health and developmental impacts, and strategies relating to caregiver self-care, and positive, buffering interventions focused on preventing the transmission of adversity. While screening for ACEs should be performed in the healthcare setting, early childhood professionals should understand how to recognize the signs and symptoms of toxic stress and how to connect parents and families to the appropriate resources for support. In addition, early childhood professionals play an important role in delivering the daily doses of buffering interactions that are instrumental in preventing the development of the toxic stress response.

Unfortunately, many children receiving early care and education are experiencing ACEs, and supports are needed for children and families to help prevent or mitigate the toxic stress response.³² **Tertiary prevention** targets families where child ACEs or other risk factors for toxic stress are already present, such as untreated parental mental health or substance use concerns, homelessness, domestic violence, or child maltreatment—along with evidence of toxic stress symptoms. The central aim of tertiary prevention activities is to reduce negative downstream consequences and halt any chance of recurrence.³³ Tertiary prevention programs may engage trained mental health counselors for intensive family preservation services, coordinate parent support groups to share best practices on positive parenting behaviors and attitudes, recruit parent mentors to serve as role models to families in crisis, and deploy mental health services to bolster effective communication and family cohesion.

Home visitors and other early childhood professionals can help families connect to trauma-informed healthcare for assessment and treatment of toxic stress through the ACEs Aware provider directory.³⁴



Early Childhood Sector Strategies for Preventing and Addressing ACEs and Toxic Stress



Primary Prevention Strategies

These activities are intended to prevent ACEs and toxic stress before they happen by focusing on upstream structural inequalities and determinants of health and well-being among the general population, to increase the total dose of buffering factors and decrease the total dose of adversity.

Secondary Prevention Strategies

These activities are designed to facilitate early detection and reduce or mitigate impacts from ACEs and other risk factors that have already occurred and to increase buffering or protective factors that can build resilience and protect against toxic stress.

Tertiary Prevention Strategies

These activities are targeted toward people who have already experienced ACEs and toxic stress impacts by intervening to halt or slow disease processes, prevent recurrence, and return people to health.



Primary Prevention Strategies

- Expand supply and improve access to affordable child care and home visitation services
- Promote safe and stable home environments, especially ones that promote early learning and optimal development
- Promote social norms that protect against violence and adversity
- Improve integration of healthcare, early childhood supports, and related programs like social services across programs
- Offer universal parenting education and resources
- Expand licensing and accreditation of child care facilities and other early childhood workers to include trauma-informed competencies
- Provide widespread trauma-informed training and support self-care for all early childhood personnel

Secondary Prevention Strategies

- Provide parent education regarding ACEs and toxic stress and teach parenting skills to prevent intergenerational transmission
- Promote positive family relationship approaches
- ▶ Refer children and caregivers to ACEs Aware health providers
- ▶ Increase targeted early child home visitation services for at-risk families
- Support teen parents in graduating from school and supporting their children
- ▶ Reduce stigma surrounding ACEs, and seeking help for mental and behavioral health conditions
- Provide resources to meet specific family needs, such as through Family Resource Centers



Tertiary Prevention Strategies

- Emphasize buffering care strategies in home visitation, early care, and education
- ▶ Promote self-care strategies that buffer toxic stress, including healthy relationships, sleep, nutrition, mindfulness practices, mental healthcare, exercise, and access to nature
- ▶ Enhance access to high-quality healthcare services that address toxic stress
- Facilitate parent mentorship programs and support groups, especially for parents suffering from toxic stress
- Provide intensive support for families in crisis

References

- 1. California Department of Public Health, Injury and Violence Prevention Branch (CDPH/IVPB), California Department of Social Services, Office of Child Abuse Prevention, California Essentials for Childhood Initiative, University of California Davis, Violence Prevention Research Program, Firearm Violence Research Center. Adverse Childhood Experiences data report: Behavioral Risk Factor Surveillance System (BRFSS), 2011-2017: An overview of Adverse Childhood Experiences in California. California: California Department of Public Health and the California Department of Social Services, 2020.
- 2. Hughes K, Bellis MA, Hardcastle KA, et al. The effect of multiple Adverse Childhood Experiences on health: A systematic review and meta-analysis. *The Lancet Public Health* 2017; **2**(8): e356-e66.
- 3. Petruccelli K, Davis J, Berman T. Adverse Childhood Experiences and associated health outcomes: A systematic review and meta-analysis. *Child Abuse & Neglect* 2019; **97**: 104127.
- 4. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine* 1998; **14**(4): 245–58.
- 5. Dube SR, Felitti VJ, Dong M, Giles WH, Anda RF. The impact of Adverse Childhood Experiences on health problems: Evidence from four birth cohorts dating back to 1900. *Preventive Medicine* 2003; **37**(3): 268-77.
- 6. Brown DW, Anda RF, Tiemeier H, et al. Adverse Childhood Experiences and the risk of premature mortality. *American Journal of Preventive Medicine* 2009; **37**(5): 389-96.



- 7. Merrick MT, Ford DC, Ports KA, et al. Vital signs: Estimated proportion of adult health problems attributable to Adverse Childhood Experiences and implications for prevention–25 states, 2015–2017. *Morbidity and Mortality Weekly Report* 2019; **68**(44).
- 8. Waehrer GM, Miller TR, Silverio Marques SC, Oh DL, Burke Harris N. Disease burden of Adverse Childhood Experiences across 14 states. *PLoS One* 2020; **15**(1): e0226134.
- 9. Centers for Disease Control and Prevention. Leading causes of death and injury-ten leading causes of death and injury, United States, 2017. https://www.cdc.gov/injury/wisqars/LeadingCauses.html (accessed Sep 15, 2020).
- 10. Bellis MA, Hughes K, Ford K, Ramos Rodriguez G, Sethi D, Passmore J. Life course health consequences and associated annual costs of Adverse Childhood Experiences across Europe and North America: A systematic review and meta-analysis. *The Lancet Public Health* 2019; **4**(10): e517-e28.
- 11. Miller TR, Waehrer GM, Oh DL, et al. Adult health burden and costs in California during 2013 associated with prior Adverse Childhood Experiences. *PLoS One* 2020; **15**(1): e0228019.
- 12. Anda RF, Felitti VJ, Bremner JD, et al. The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience* 2006; **256**(3): 174-86.
- 13. Bucci M, Marques SS, Oh D, Harris NB. Toxic stress in children and adolescents. *Advances in Pediatrics* 2016; **63**(1): 403-28.
- 14. Garner AS, Shonkoff JP, Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, Section on Developmental and Behavioral Pediatrics. Early childhood adversity, toxic stress, and the role of the pediatrician: Translating developmental science into lifelong health. *Pediatrics* 2012; **129**(1): e224-e31.
- 15. Shonkoff JP, Garner AS, Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, Section on Developmental and Behavioral Pediatrics. The lifelong effects of early childhood adversity and toxic stress. *Pediatrics* 2012; **129**(1): e232-e46.
- 16. Johnson SB, Riley AW, Granger DA, Riis J. The science of early life toxic stress for pediatric practice and advocacy. *Pediatrics* 2013; **131**(2): 319-27.
- 17. Miller GE, Chen E, Parker KJ. Psychological stress in childhood and susceptibility to the chronic diseases of aging: Moving toward a model of behavioral and biological mechanisms. *Psychological Bulletin* 2011; **137**(6): 959-97.
- 18. McEwen BS. Protective and damaging effects of stress mediators. *The New England Journal of Medicine* 1998; **338**(3): 171-9.
- 19. Danese A, McEwen BS. Adverse Childhood Experiences, allostasis, allostatic load, and age-related disease. *Physiology & Behavior* 2012; **106**(1): 29–39.



- 20. National Academies of Sciences, Engineering, and Medicine. Vibrant and healthy kids: Aligning science, practice, and policy to advance health equity. Washington, DC: The National Academies Press, 2019.
- 21. Arnsten AF. Stress signalling pathways that impair prefrontal cortex structure and function. *Nature Reviews Neuroscience* 2009; **10**(6): 410-22.
- 22. Weaver IC, Cervoni N, Champagne FA, et al. Epigenetic programming by maternal behavior. *Nature Neuroscience* 2004; **7**(8): 847-54.
- 23. Vyas A, Mitra R, Shankaranarayana Rao BS, Chattarji S. Chronic stress induces contrasting patterns of dendritic remodeling in hippocampal and amygdaloid neurons. *Journal of Neuroscience* 2002; **22**(15): 6810-8.
- 24. Robles A, Gjelsvik A, Hirway P, Vivier PM, High P. Adverse Childhood Experiences and protective factors with school engagement. *Pediatrics* 2019; **144**(2): e20182945.
- 25. Burke NJ, Hellman JL, Scott BG, Weems CF, Carrion VG. The impact of Adverse Childhood Experiences on an urban pediatric population. *Child Abuse & Neglect* 2011; **35**(6): 408-13.
- 26. Jimenez ME, Wade R, Lin Y, Morrow LM, Reichman NE. Adverse experiences in early childhood and kindergarten outcomes. *Pediatrics* 2016; **137**(2): e20151839.
- 27. Jimenez ME, Wade R, Schwartz-Soicher O, Lin Y, Reichman NE. Adverse Childhood Experiences and ADHD diagnosis at age 9 years in a national urban sample. *Academic Pediatrics* 2017; **17**(4): 356-61.
- 28. Brown NM, Brown SN, Briggs RD, Germán M, Belamarich PF, Oyeku SO. Associations between Adverse Childhood Experiences and ADHD diagnosis and severity. *Academic Pediatrics* 2017; **17**(4): 349-55.
- 29. Kandel ER, Schwartz JH, Jessell TM, Siegelbaum SA, Hudspeth A. Principles of Neural Science. 5 ed. New York, NY: McGraw-Hill; 2012.
- 30. National Center for Injury Prevention and Control CfDCaP. 2020. https://www.cdc.gov/violenceprevention/pdf/essentials-for-childhood-framework508.pdf (accessed Sep 23, 2020).
- 31. Centers for Disease Control and Prevention. Preventing Adverse Childhood Experiences: Leveraging the best available evidence. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2019.
- 32. Lundahl BW, Nimer J, Parsons B. Preventing child abuse: A meta-analysis of parent training programs. *Research on Social Work Practice* 2006; **16**(3): 251-62.
- 33. Faver CA, Crawford SL, Combs-Orme T. Services for child maltreatment: Challenges for research and practice. *Children and Youth Services Review* 1999; **21**(2): 89-109.
- 34. ACEs Aware. Find ACEs Aware providers in California. 2020. https://www.acesaware.org/screen/certification-payment/provider-directory/ (accessed Oct 9, 2020).

